

4 CH Vehicle Mobile DVR

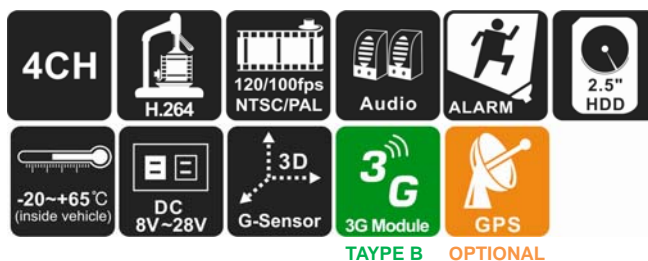


TAYPE A: Without 3G Module



TAYPE B: 3G Module

2011 DEC V1.0



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A. Features

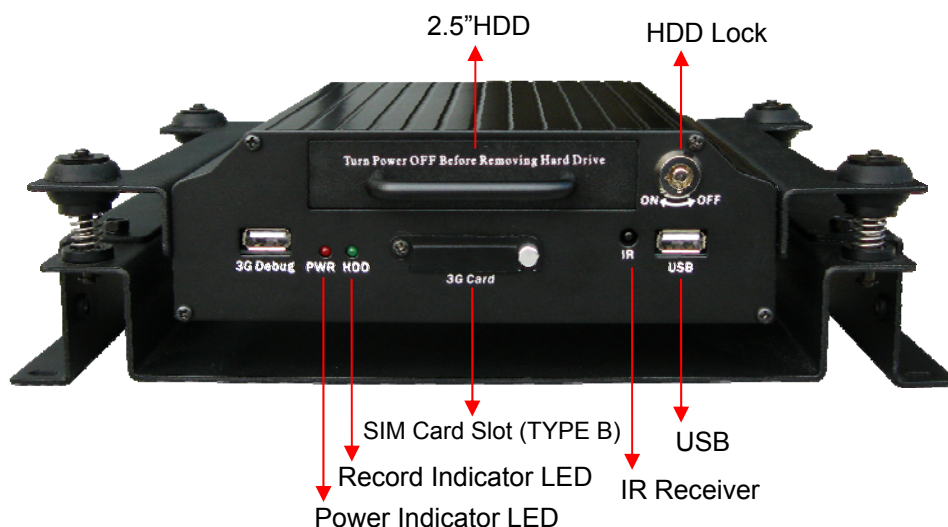
1. Provide Video output for playing-back mode in mainframe.
2. Recording format: D1 and CIF
3. Support 1CH Audio Input.
4. User friendly player software, easy to operation.
5. Overall quick search event log.
6. The full recording time and date can be showing in the monitor directly.
7. Wide range voltage design.
8. Auto recording after power supplied.
9. Removable HDD Track compatible with 2.5" HDD or SSD.
10. Provide 4 sets of alarm input ports, built-in buzzer.
11. Firmware can be upgraded via USB port.
12. Support recording audio, video, G-sensor and GPS data at the same time.
13. Optional 3G module, for real time monitoring the driving statue, or talk to driver

B. Specification

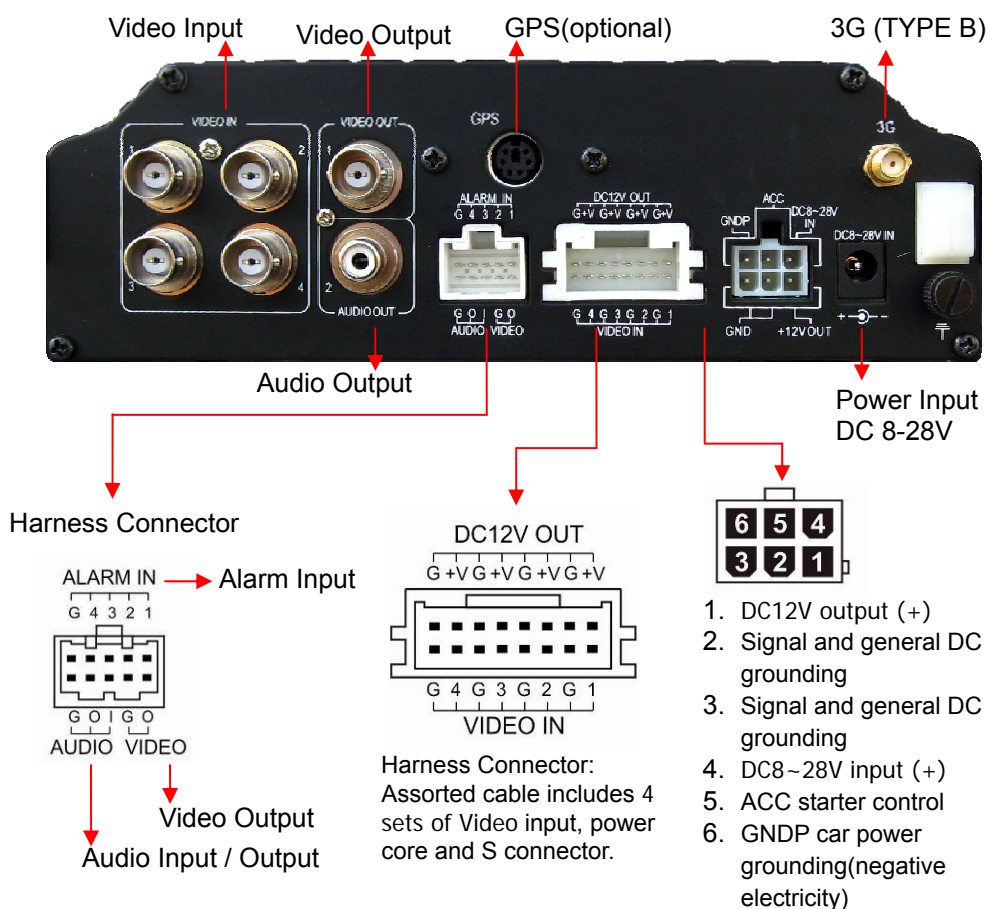
| Item | | Description | |
|--|----------|---|--------------|
| Video Format | | NTSC | PAL |
| Video Input | | 4CH Input / BNC | |
| Audio Input | | 1CH Input / Harness Connector | |
| Video Output | | 1CH Output /BNC | |
| Audio Output | | 1CH Output /RCA | |
| Alarm Input | | 4 Alarm Input | |
| Alarm Output | | Buzzer | |
| Display Mode | | Full Screen, 4 Split, Auto-Switch | |
| Display Resolution | | 720 x 480 | 720 x 576 |
| Recording Resolution | D1 | 720 x 480 | 720 x 576 |
| | CIF | 360 x 240 | 360 x 288 |
| Recording Frame | | Max. 120 FPS | Max. 100 FPS |
| Compression Format | | H.264 Technology | |
| Operation System | | Embedded Linux Kernel | |
| Simplex | | Record / Playback | |
| Recording Mode | | Real Time Recording | |
| Delaying-record function after power off | | 15/30/60/120 Minutes | |
| LED Indicator | | Power, HDD | |
| Event Mode | | Alarm Trigger / Video Loss | |
| Playback Mode | | Normal Speed x1 | |
| | | Search Function: Time / Event | |
| Network | | 3G module (TYPE B) | |
| GPS | | GPS(optional) | |
| Storage Type | | 2.5" HDD | |
| Firmware Update | | USB | |
| Multi-Language | | English / Traditional Chinese / Others (Customizable) | |
| G Sensor | | G Sensor | |
| Operation | | IR Remote Controller | |
| Power Supply | | DC 8V~ 28V | |
| Dimension | | 180mm x 210mm x 58mm (W x D x H) | |
| Weight | | 3Kg (with bracket without HDD) | |
| Operation Temperature | | -21°C~+56°C (Inside Vehicle) | |
| Accessories | Standard | Main Machine, Remote Control, 3 Pin Power Cable, Harness Plug for Video Input , Alarm Cable, Driver CD, Quick Guide | |
| | Optional | 3G Module, G-Mouse | |

C. Product Appearance

FRONT PANEL



REAR PANEL



D. Record / Stop-Record



1. Power on / Record

Turn on the power, and it will take approximately 40 seconds to boot up. During the recorder booting up, the HDD indicator LED will start flashing as the recording is in progress.

Light indicator:

- Red light: light on, means power on; light off, means no power/power off.
- Green light: light flashing, means HDD take recording; light off means non-recording.

★Remark: While using playback function in DVR, it cannot take live recording at that time.

2. Power off/Stop recording:

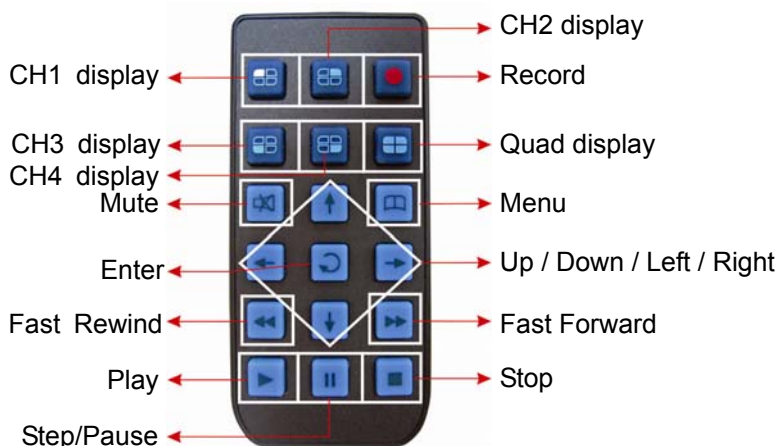
Power off also stop recording, at then you can take out HDD to read the recorded files.

E. System operating instruction

Vehicle DVR can be operated through two methods: IR remote controller and PC software application.

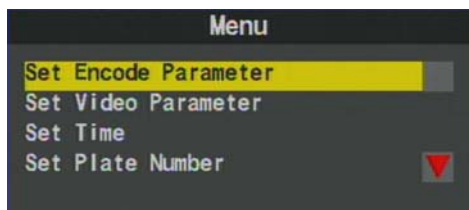
■ Through IR Remote controller instruction

1. As following is the key mapping table for IR Remote controller :

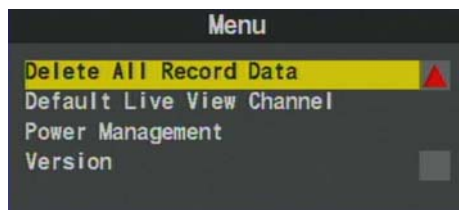


2. DVR OSD menu operation and IR Remote controller key mapping chart

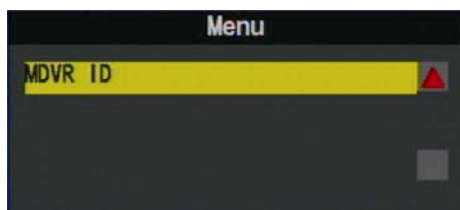
■ Main menu page switch



page1/3 setting



page 2/3 setting



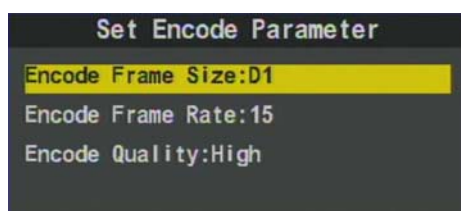
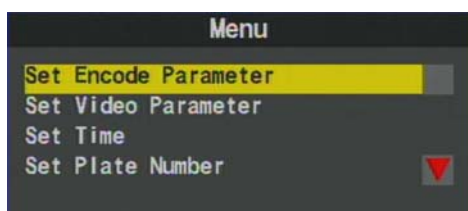
page3/3 (with 3G module)

◆ IR Remote controller Instruction

- (1) Select Item: [up/down/left/right]
- (2) Change setting for selected item: [up/down/left/right]
- (3) Change setting for Bar item : [Enter]
- (4) Full Screen display for each CH: [CH1~CH4]
- (5) Open OSD menu, back to previous page : [menu]
- (6) Quad display : [Quad]
- (7) Enter playback mode : [play]
- (8) Stop Play/exit playback mode : [Stop]
- (9) Suspend recording:[Pause]

■ **System Setup instruction**

(1) Set Encode Parameter



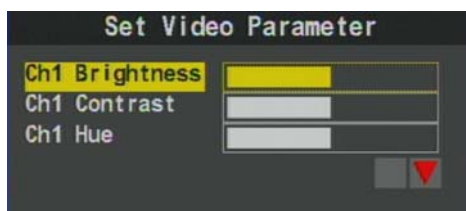
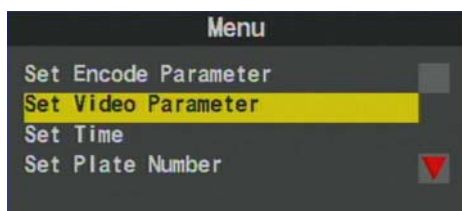
◆ IR Remote controller operating instruction

- (1) Can be selected Resolution/Record frame rate /Recording quality from up/down key on remote controller.
- (2) Left key→ Change parameter.
- (3) Right key→ Back to pervious parameter.

◆ Items Setting

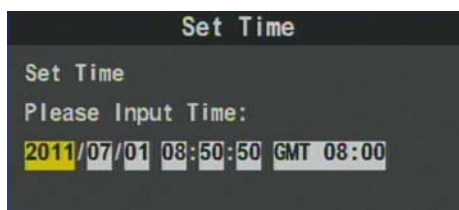
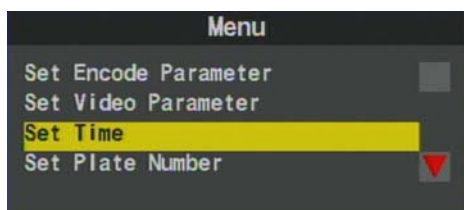
- (1) Encode Frame Size (Res.): D1 / CIF
- (2) Encode Frame Rate: 5/15/20/25/30
(D1 max. 15 / CIF max. 30)
- (3) Encode Quality: Low/Normal/High

2. Set Video Parameter



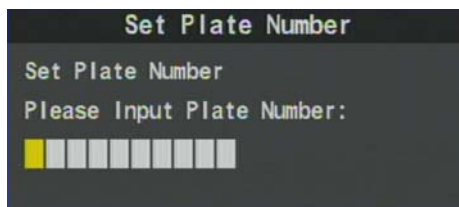
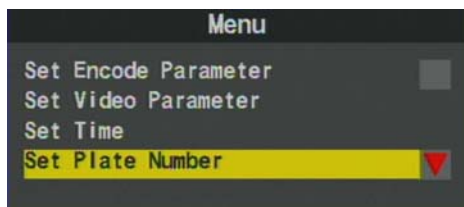
- ◆ IR remote controller operating instruction
 - (1) Up/Down key→ Select current channel for setup
 - (2) Left/Right key→ Set brightness/contrast/hue for current channel (Left key→ To reduce)/ (Right key→ To increase)
- ◆ Item Setting
 - (1) Brightness: (Left key→ to reduce)/ (Right key→ to increase)
 - (2) Contrast: (Left key→ to reduce)/ (Right key→ to increase)
 - (3) Hue: (Left key→ to reduce Hue)/ (Right key→ to increase Hue)

3. Set Time



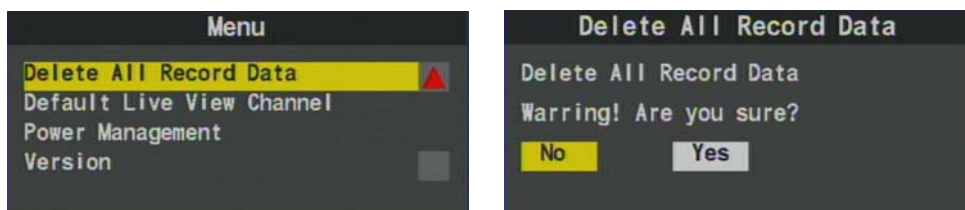
- ◆ IR Remote controller operating instruction
 - (1) Up key→ Plus one, Down key→ Reduce one.
 - (2) Left key→ Left one space, Right key→ Right one space.

4. Set Plate Number



- ◆ IR Remote controller operating instruction
 - (1) Up key→ Numbers plus one or alphabetical order to increase.
 - (2) Down key→ Number reduce one or alphabetical order to reduce
 - (3) Left key→ Left one space.
 - (4) Right key→ Right one space.

5. Delete All Record Data (Format Disk)



- (1) Delete All Record Data
Use right key or left key to select the selection then click “enter” to confirm.
★Caution! All data will be deleted when you click “Yes”.

6. Default Live View Channel Display



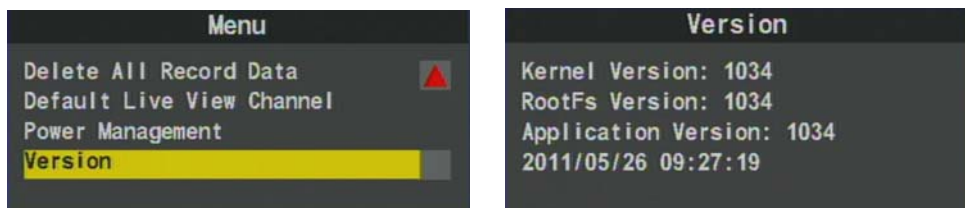
- (1) Select the default live view CH after startup: Item selected will be default live view display mode after DVR booting completed.
- (2) On this page, Use left key or right key to select Quad display (Multi-CH) or CH 1 Display, then press “enter” to confirm.

7. Power Management



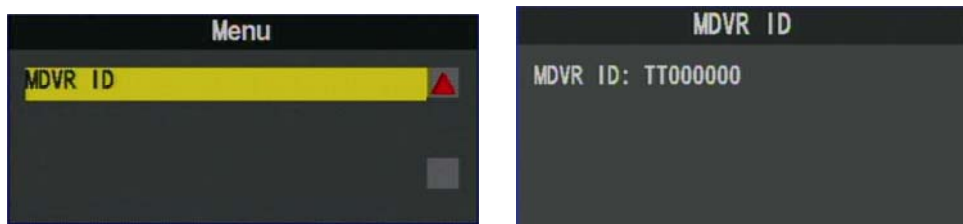
- (1) Power Management: Setup Extended Record period after Engine shutdown.
- (2) Use IR Remote controller for setting, Click Left key to move one space for selecting time for delay-recording, then press enter key to confirm.(The delay-recording period can be 0,5,10,15,20 minutes)

8. Check Firmware Version



- (1) To check current firmware version, please select version and press enter key.
★Check the current firmware version first before firmware upgraded.

9. Check MDVR ID Information (Only available when DVR with specific 3G module)



- (1) If you need to check current MDVR ID information, please click MDVR ID and press enter key on remote controller.

★Check the current MDVR ID version is the newest version first before start 3G information setup.

■ LIVE Display



- (1) Select CH1~CH4 to full display mode; If you want to return to quad display, please press quad key.
- (2) On Live view mode, click “menu” to enter OSD menu or click “Play” to enter playback mode.

★If it shows the “G” mark on Upper right screen, it means GPS positioning successes.

■ Playback mode






| Select Decode Items | |
|---------------------|---------------------|
| Start Record Time | End Record Time |
| 2011/06/30 16:00:46 | 2011/06/30 17:05:13 |
| 2011/06/30 17:05:13 | 2011/06/30 18:09:41 |
| 2011/06/30 18:09:42 | 2011/06/30 19:14:05 |
| 2011/06/30 19:14:06 | 2011/06/30 20:18:30 |
| 2011/06/30 20:18:30 | 2011/06/30 21:22:53 |
| 2011/06/30 21:22:54 | 2011/06/30 22:27:14 |
| Page 00001 | Total Pages 00003 |

- (1) Select CH1~CH4 as full display for each CH; If you want to return to quad display, please press quad key.
- (2) On Playback mode, please click “stop” to exit the playback mode.
- (3) Press pause key to pause video stream.
- (4) On Pause mode, Press the play key to continue play recording file.

F. Playback

1. Through Carbox Player on PC site

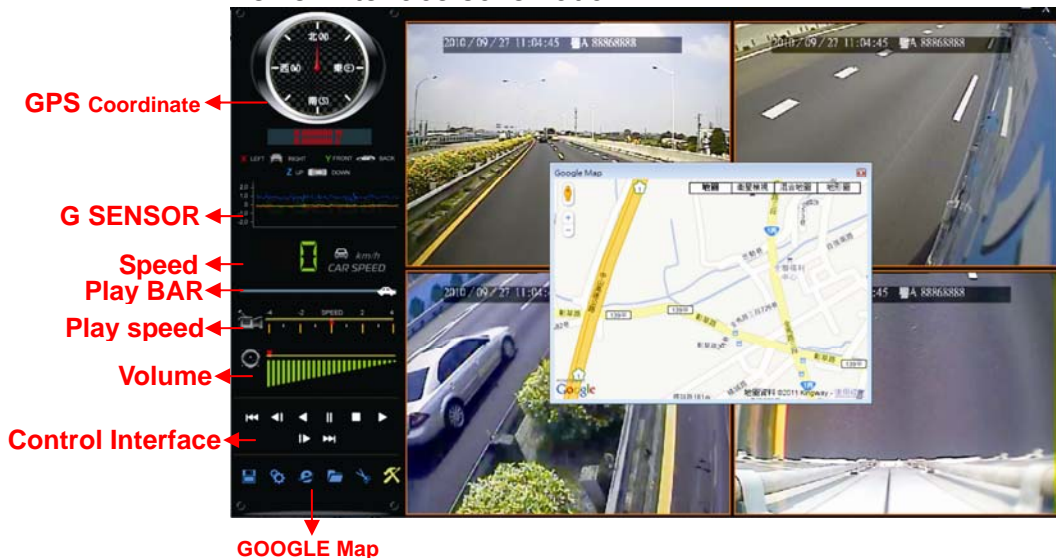
(1) Use HDD to playback directly

Execute the CarBox2.exe  from CD-ROM , the display as showing below. Click  Play button to select HDD; or click open file  to choose the files from hard disk, and then double-click the file you want to play. Under playing mode the  play key will switch to  pause key.

★Caution: It needs to install DirectX 9.0 or above before running CarBox2 software.

Operating instruction















■ Viewer interface schematic




★GPS Coordinate, Speed and Google Map (select models with 3G modules)

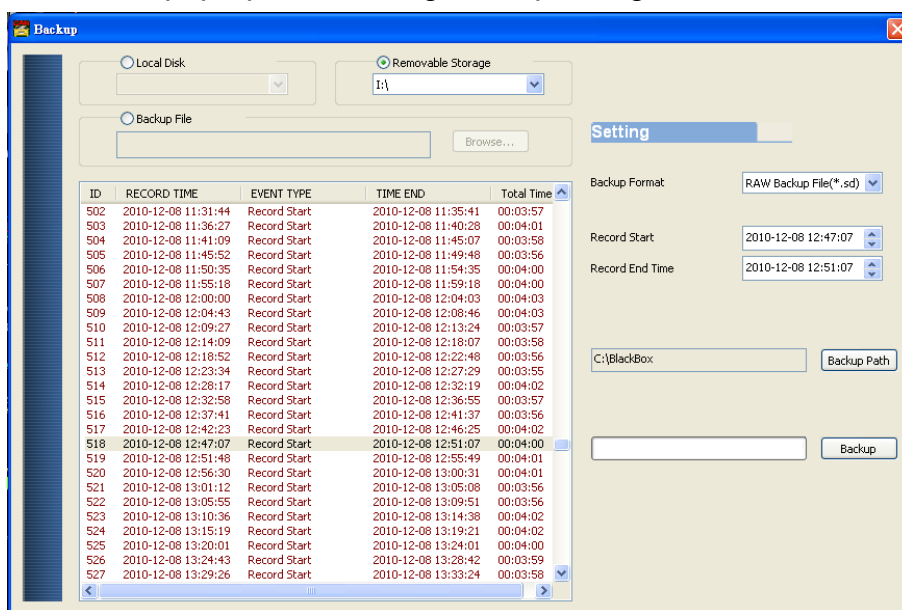
a. Control interface description



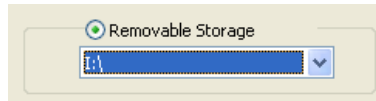
| | | |
|----|---|---|
| 1 |  | Previous File |
| 2 |  | Previous Frame |
| 3 |  | Backward Play |
| 4 |  | Pause |
| 5 |  | Stop |
| 6 |  | Play |
| 7 |  | Next Frame |
| 8 |  | Next file |
| 9 |  | Open folder, select file. |
| 10 |  | Disk backup. Select the backup path for file storage. |
| 11 |  | Google Map |
| 12 |  | Configuration |
| 13 |  | Snapshot |
| 14 |  | Tool, HDD format, language setting. |

■ Hard Disk backup

Review footage on the HDD through PC, Click” ”, then it will pop-up as following backup dialogue windows.



Step 1. Select the HDD drive no.



Step 2. Select the recorded file which you want to backup

| ID | RECORD TIME | EVENT TYPE | TIME END | Total Time |
|----|---------------------|--------------|---------------------|------------|
| 1 | 2010-11-13 06:23:32 | Record Start | 2010-12-07 00:54:20 | 570:30:48 |
| 2 | 2010-12-07 00:55:04 | Record Start | 2010-12-07 00:57:54 | 00:02:50 |
| 3 | 2010-12-07 00:58:38 | Record Start | 2010-12-07 01:01:29 | 00:02:51 |
| 4 | 2010-12-07 01:02:14 | Record Start | 2010-12-07 01:05:05 | 00:02:51 |
| 5 | 2010-12-07 01:05:49 | Record Start | 2010-12-07 01:08:40 | 00:02:51 |
| 6 | 2010-12-07 01:09:24 | Record Start | 2010-12-07 01:12:15 | 00:02:51 |

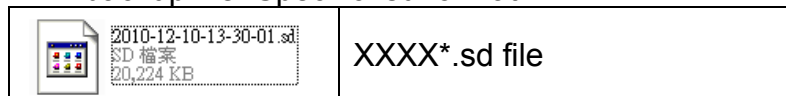
Step 3. Select the Backup Format

Backup Format: RAW Backup File(*.sd) [v]
 RAW Backup File(*.sd)
 AVI Backup File(*.avi)

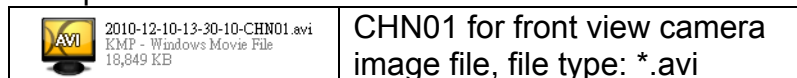
Record Start: 2010-12-07 00:58:38 [v]
 Record End Time: 2010-12-07 01:01:29 [v]

Backup format:

(1) RAW backup file. Specific .sd format



(2) AVI File(*.avi) backup when take this format as backup



★caution : The difference between .sd format and .avi format is that AVI file contains only video and audio data but lose the GPS coordinates, speed and G-sensor data. so, we would recommend to select .sd format when you back the file.

Step 4. Backup Path: Select your backup destination (e.g.: C:\BlackBox)

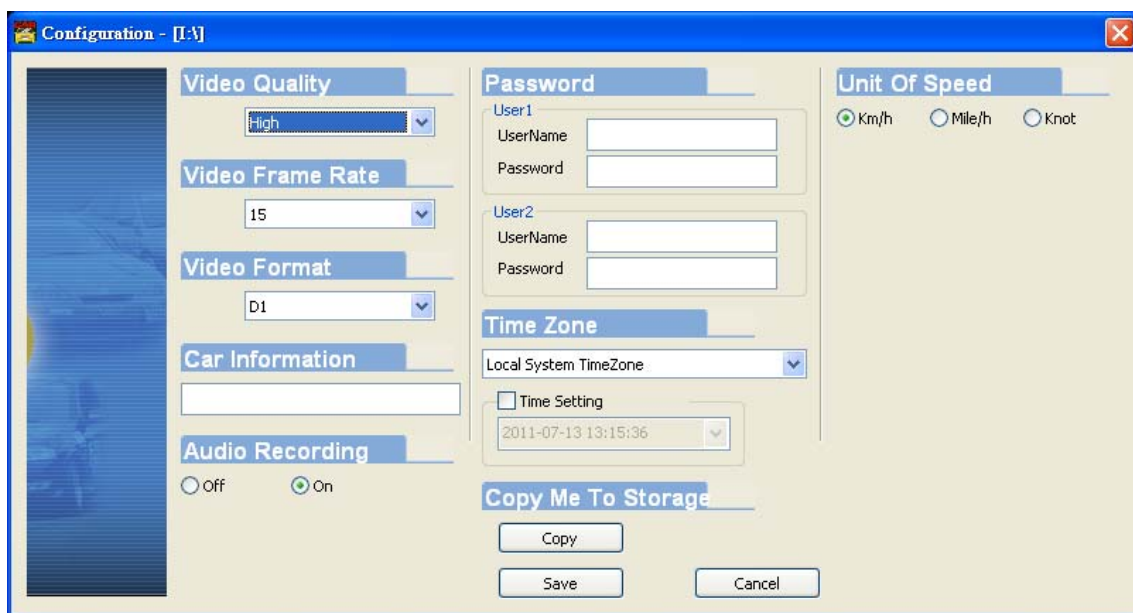
C:\BlackBox [v] Backup Path

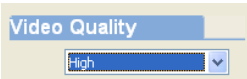
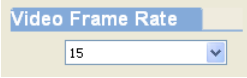
Step 5. Backup: Click 'backup' to start saving the file to your specified destination


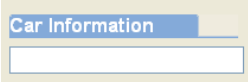

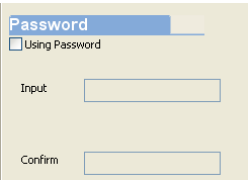


A dialog box with a light beige background. It contains a white rectangular text input field on the left and a button labeled "Backup" on the right.

■ Configuration


Before start recording, please configure the setting well and then plug HDD into the host. The configuration interface of its options detailed instructions, please see the operation manual of CD-ROM.

A screenshot of a "Configuration" window with a blue title bar. The window is divided into several sections: "Video Quality" (High), "Video Frame Rate" (15), "Video Format" (D1), "Car Information" (empty text box), "Audio Recording" (On), "Password" (User1 and User2 fields), "Unit Of Speed" (Km/h selected), "Time Zone" (Local System TimeZone), "Time Setting" (checkbox), and "Copy Me To Storage" (Copy, Save, Cancel buttons).

| | | | |
|---|---------------|---|---|
| 1 | Video Quality |  | Select the video Quality: High/ Normal / Low |
| 2 | Video Frame |  | Set the recording frame rate for the camera (2、4、6、8、10、15、20、25、30) |

| | | | |
|---|-----------------|---|--|
| 3 | Video Format |  | video signal format D1/CIF |
| 4 | Car Information |  | You can input the driver's name or license number here to identify people's identity. Suitable for company or group using. |
| 5 | Audio Recording |  | Audio recording on or off. |
| 6 | password |  | <p>This function can encrypt the data and prevent others from accessing. Maximum letters:15 letters. Example: 123456789123456</p> <p>After setting the password up, you have to input password every time for playing the files, modify the setting, formatting the HDD etc.</p> <p>★ Note: Please check if you have set capital letters for your password and save your password well in other place to prevent from missing.</p> |
| 7 | Speed unit |  | <p>You can set up the speed unit here.</p> <p>Km/h: kilometer per hour Mile/h: mile per hour Knot: knot per hour</p> <p>★ Note : 1 KM=0.6214 mile, 1 mile=1.6093KM, 1 Knot =1.853KM</p> |
| 8 | Time zone |  | Time Zone: GMT (GPS auto time correction) |

■ Snapshot

While playing the recorded file, you can use this function 

to snapshot the picture and save it into your PC.
Default saving path for snapshot picture will be in
x:\IBoxPlayer/Snapshot folder. File type: .bmp



b. Latitude & Longitude Coordinates



c. G SENSOR

G-sensor: Detect & record G-force data.

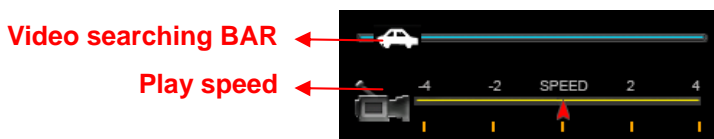


- (1) X: The G-force from left & right of the car.
- (2) Y: The G-force from front & back of the car.
- (3) Z: The G-force from upside & downside of the car

d. Speed meter



e. Video Search & Play Speed





- (1) Video Searching : You can use the mouse to drag the bar to search the video quickly.
- (2) Play Speed : Support 2x, 4x fast forwarding and -2x, -4x slow play mode.

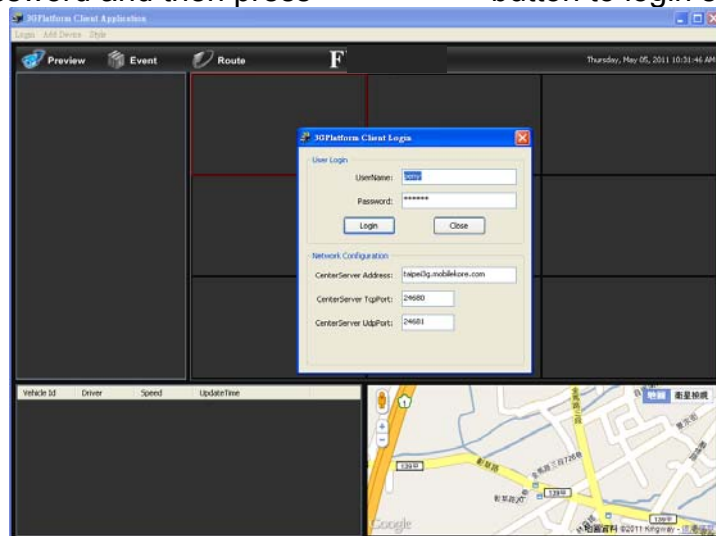
f. Volume control





Volume BAR: Click the left button of mouse control to adjust the volume degree.



(2) 3G client software for viewing directly(select models with 3G modules)

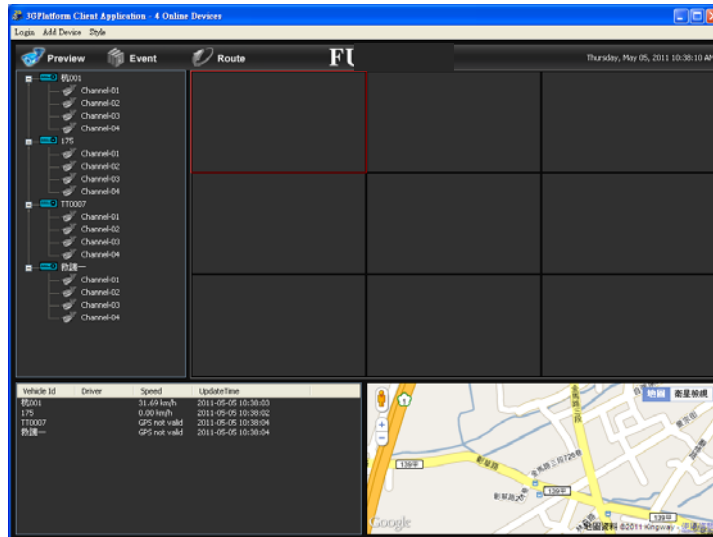
Executive Playback software “3G ClientApp.exe”, the playback screen shown as below. Enter the username and password and then press “” button to login screen.



★ Note: To perform this software will require DirectX 9.0 or more.

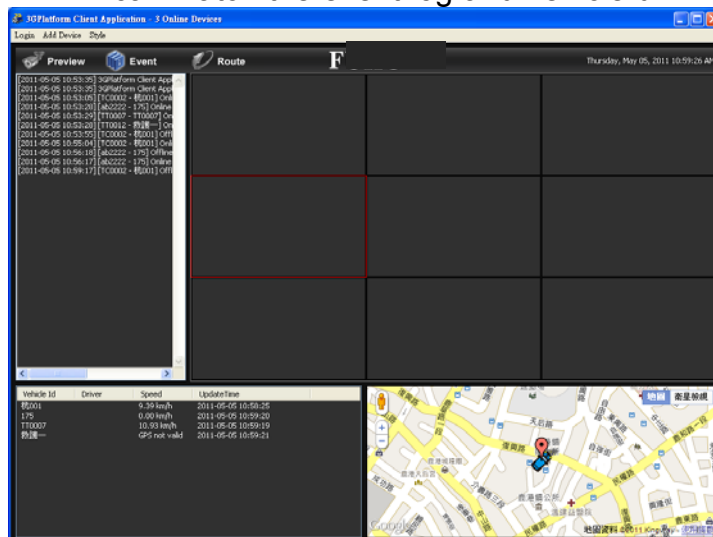
Click  Preview and then select the name of vehicle to view the image(example, the figure of 175) Then click on Channel-01 (or other Channel) and then hold down the left mouse button and drag to the split screen in right side.

The other method to choose split-screen first and then click on Channel-01 with right key of the mouse, click PLAY function to view real-time image.(When the icon becomes , it means the vehicle that is currently offline. Only the icon return to online status  to see the real-time image.)

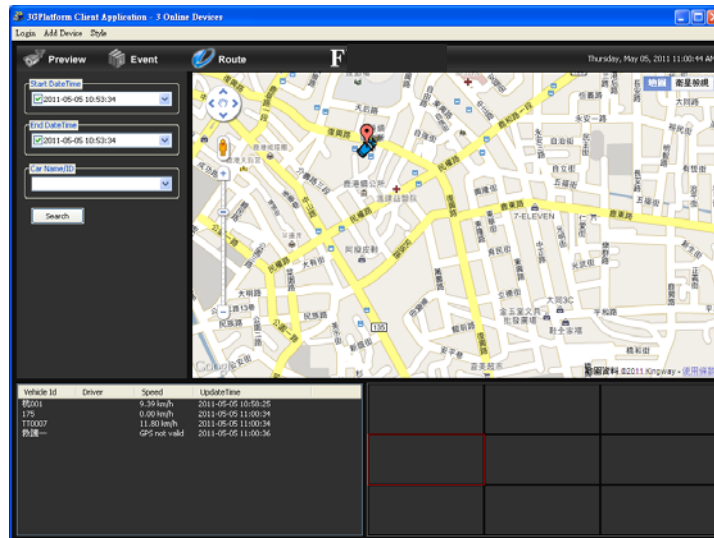


★ Note: When play real-time image, Channel icon will become green .

Click  **Event** can watch the event log and vehicle driving records...



Click  Route can watch the Google Map and inquiry the date and time record of the vehicle.....



■ 3GClientApp page and other relevant settings

Login Add Device Style

1. Login: click Login on the top of the screen to open the login screen information.
2. Add Device: In order to identify each device, add the vehicle information here.
3. Style: watch different split-screen, just click Style option to set values; Total 1 * 1,2 * 2,3 * 3,4 * 4,4 types of split screen to choose.

2. Playback on DVR site

- a. Use remote controller to enter playback menu



| Start Record Time | End Record Time |
|---------------------|---------------------|
| 2011/06/30 16:00:46 | 2011/06/30 17:05:13 |
| 2011/06/30 17:05:13 | 2011/06/30 18:09:41 |
| 2011/06/30 18:09:42 | 2011/06/30 19:14:05 |
| 2011/06/30 19:14:06 | 2011/06/30 20:18:30 |
| 2011/06/30 20:18:30 | 2011/06/30 21:22:53 |
| 2011/06/30 21:22:54 | 2011/06/30 22:27:14 |
| Page 00001 | Total Pages 00003 |

- b. Use remote controller to select playback file, and enter playback screen





- c. Press stop key on remote controller to exit playback screen.

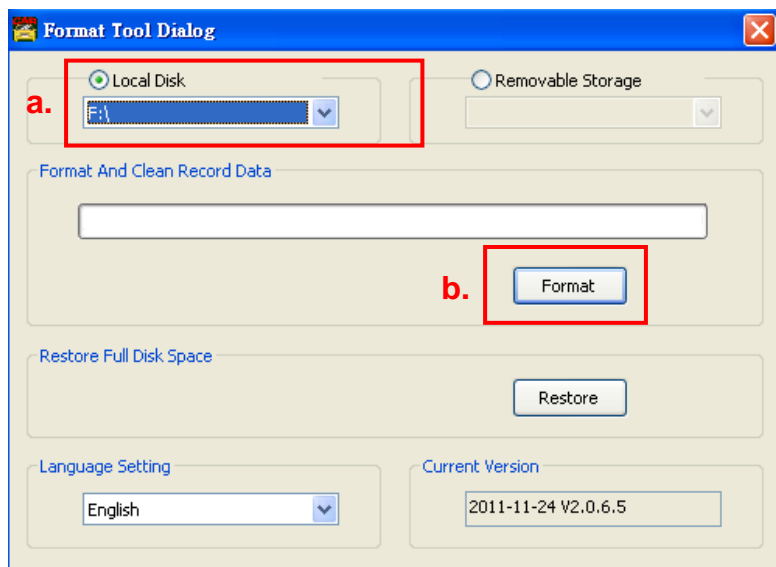
G. HDD Format

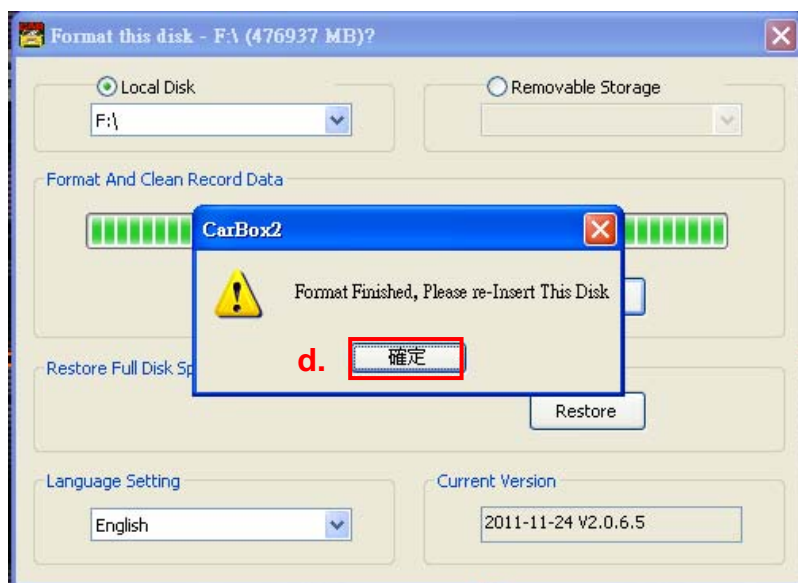
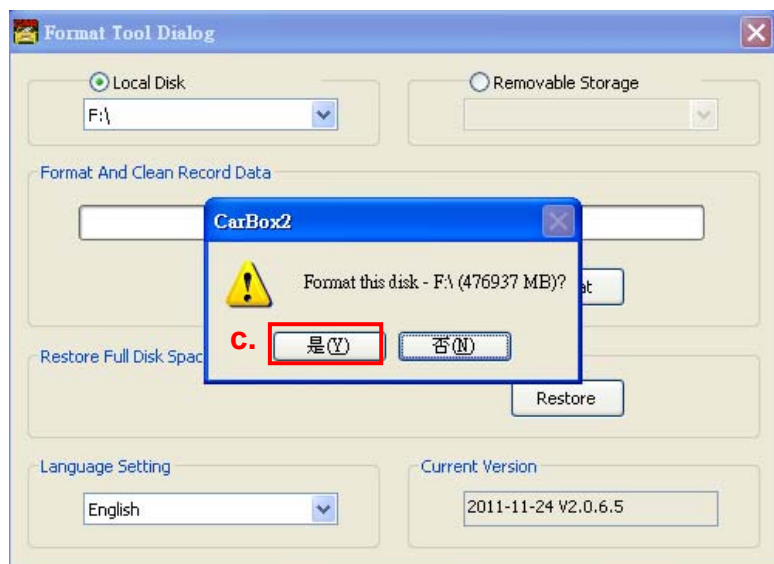
When should you format the HDD?

For brand new HDD or an used HDD which is used in other equipment before, it should be formatted before using.

■ HDD Format on PC through specific software.

1. Connect the storage device / hard disk to PC.
2. Execute CarBox.exe , one click  to act format function.
3. Select the path of HDD, and click “Format” to start formatting.

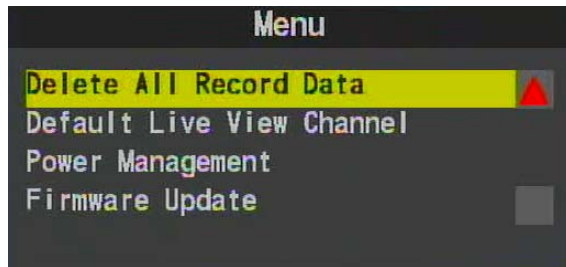




4. After format, re-plug the storage device, then you can set up related parameters and save. After setting, Install the HDD into the DVR and it can start to work.

■ Process to Format the HDD on DVR:

1. Use remote controller to enter DVR menu and choose Delete All the Record Data(format disk).



2. Select "Yes" and Click "Enter" to start formatting.





3. When the screen back to LIVE mode ,the formatting is completed.

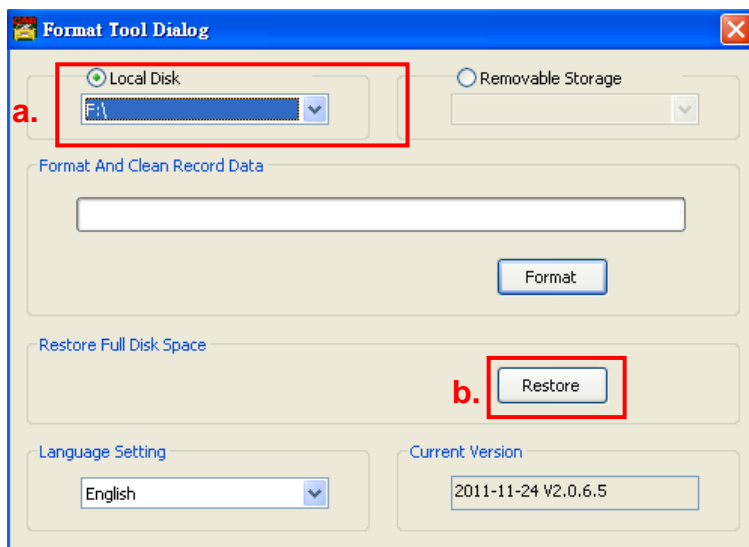
H. Restore Storage Device

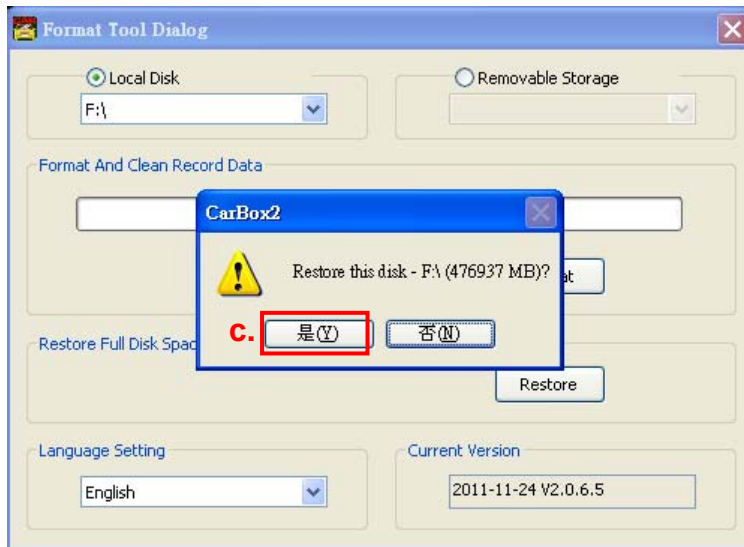
When the storage device should be restored?

If the storage device(HDD) will be used in other purpose., please back-up record footages to PC firstly and then restore it.

■ Restore Storage Device(HDD) on PC

1. Connect the storage device (hard disk) to PC.
2. Execute CarBox.exe, one click  to enter the following page.
3. Select the path of HDD and click “Restore” tab to start restoring.





4. The storage device can be used in other device after restore action completed.

I. 3G-SIM Card Setting (with 3G Module)

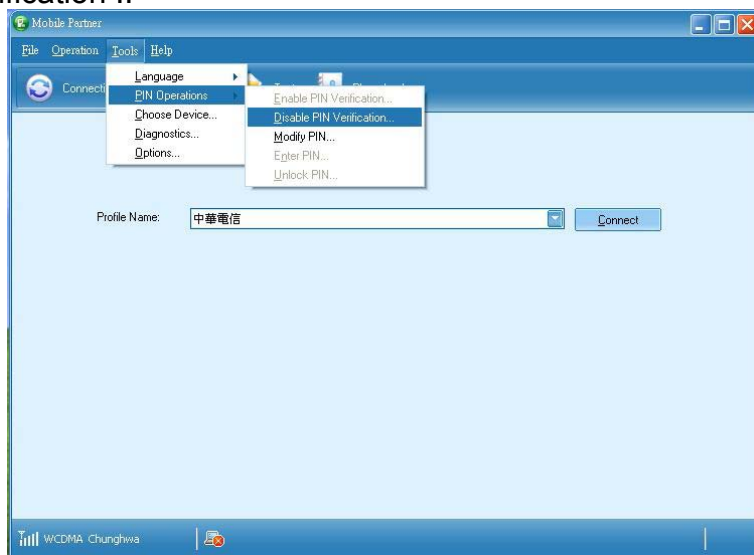
When use SIM card in our device, please pay attention to off the PIM code protection feature first.

How to turn off the PIN code protection?

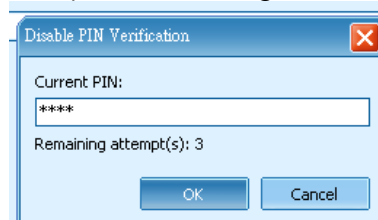
1. Using HUAWEI 3G Module and then plug the SIM card into PCI-E board first. Second, use USB cable to connect PC and PCI-E board and then open the Mobile Partner Program.



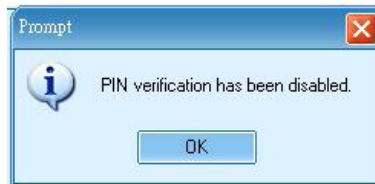
2. When open the program, select Tools \ PIN Operations \ Disable PIN Verification ..



3. Enter correct PIN code (default Chunghwa Telecom: 0000)



4. Confirm entering correct PIN code and then complete the cancellation PIN code function.



5. After completing above procedure, HUAWEI 3G Module and SIM card on our PCI-E board could connect to 3G system well.

★Unplug the USB cable and replace the original wiring connected to PCI-E board. At this time connect device power and camera well, device will send real-time image to 3G server automatically.